

Carpet Training Manual

Compiled for Lantal Customers



Introduction

Thank you very much for your interest in Lantal and our company's carpet products. As a leading provider of all-in-one interior solutions for the international community of aircraft, railway and bus operators, Lantal has an excellent global reputation not only for creative textiles but also for premium carpets. We have more than 60 years of experience in developing specific carpet solutions for our customers.

It is a privilege for us to provide training for personnel involved in carpeting logistics. This booklet contains useful information concerning life-prolonging carpet maintenance and cleaning operations as well as cutting and serging techniques. We hope it serves you well. If you have any questions or requests, please do not hesitate to contact the Lantal team at any time. You will find the contact address in section 8 of this booklet.

Yours truly,

Dr. Urs Rickenbacher
Partner, Delegate of the Board
Chief Executive Officer

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Disclaimer

This documentation is based on our present knowledge and experience and is intended to provide general information on our carpets and their uses. It should therefore not be interpreted as guaranteeing specific properties of the products or their suitability for a particular application. The documentation is a recommendation and is not legally binding.

1

Origin and production

Lantal manufactures its carpets in Switzerland and is the only single-source textile mill in the world that produces not only carpets but also velvets and flat weaves for the transportation industry.

As many as 3 in-house designers regularly team up to develop new, customer-specific designs for carpets.

Lantal visualizes the brands of its customers to assure that their soft interiors make a significant contribution to the well-being of their passengers.

Lantal's carpet weaving facility is equipped with 16 Jacquard looms and 1 shaft loom. Every hour, each loom weaves about 8 m² of carpet. To prevent electrostatic charging under very dry aircraft cabin climate conditions, an accurately calculated volume of special antistatic fibers is added to the wool.

In manufacturing its premium carpets, Lantal mainly uses virgin wool sourced from New Zealand, which is globally recognized for its unique quality.

2

Lantal's wool carpets

2.1 Product

Wool carpets are natural, high-performance floorcoverings for hospitable aircraft cabin interiors.

- 100 % new virgin wool and synthetic or glass fiber backing
- Difficult to ignite and has low flame spread and heat release properties
- Intrinsic resistance to soiling due to natural oils and the structure of the fiber which acts as a shield against dirt
- Natural insulating properties, both acoustic and thermal
- Wool is a resilient fiber which recovers after being compressed
- Long-lasting visual appeal and superior looks
- Soft texture for enhanced underfoot comfort
- Lantal wool carpets fulfill all EASA/FAA, Boeing and Airbus specifications including ABD0031 smoke and toxicity specifications
- Excellent cut fastness (non-fraying), no overlocking of edges necessary



Lantal's wool carpets are designed for service in Economy, Business, and First Class sections both on short- and long-haul routes.

The weaving techniques employed are tailored to the requirements imposed on the carpet, which can have a loop pile or a cut pile. Parameters include pile height, yarn thickness, yarn weight, patterns, themes, and colors. Lantal provides counsel for every conceivable application to help you find the most cost-effective and efficient carpet solution for every service and wear exposure category.

The Lantal carpet portfolio features a vast selection of predefined colors and designs. Of course, customized designs and colors are available on request for signature interiors that match the owner's livery.

2.2 Safety

All Lantal products are permanently flame-resistant in accordance with FAR 25.853, 12 sec. vertical, and meet the Airbus and Boeing specifications for smoke and toxicity if cleaned according to Lantal recommendations.

3

Ready-to-install products

The status as Design Organization (DOA, EASA Part 21 J) of Lantal's subsidiaries ASI and ACC in combination with Lantal's status as Production Organization (POA, EASA Part 21 G) officially authorizes Lantal to independently design, test, and certify modifications of aircraft cabin components. This gives us the leverage to better serve you as an attractive and highly competitive provider of cost-effective all-in-one solutions.

Your benefits of going with Lantal in the context of aircraft interior projects are convincing:

- A single point of contact
- Vastly reduced paperwork
- Lower costs
- Less complexity in process management, from start to finish
- Conveniently installable products, delivered ready-to-fit

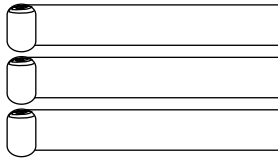
Lantal has the know-how and resources needed to manage the entire process from the kick-off to doorstep delivery, including the official EASA Form 1, as per the customer's logistics preferences.

In the domain of aviation floorcoverings, Lantal can provide added value by delivering pre-cut and serged carpets as described below. This section also contains critical information for customers who source yardage carpets from Lantal but wish to have cutting and serging handled by providers at their respective hubs.

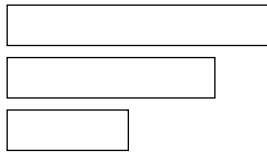
3.1 Pre-cut carpets

On request, Lantal can cut your carpets to size prior to delivery. Pre-cut carpets can be:

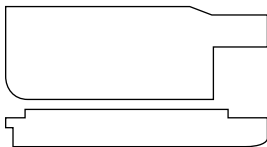
- Yardage cut to width



- Rectangular tiles cut to size



- Shapes pre-cut exactly to size



Our cutting experts will require approved data, true-to-scale blueprints, files with cut dimensions or a layout drawing with the applicable measurements for all carpet parts. You will receive a professionally processed carpet ready for installation.

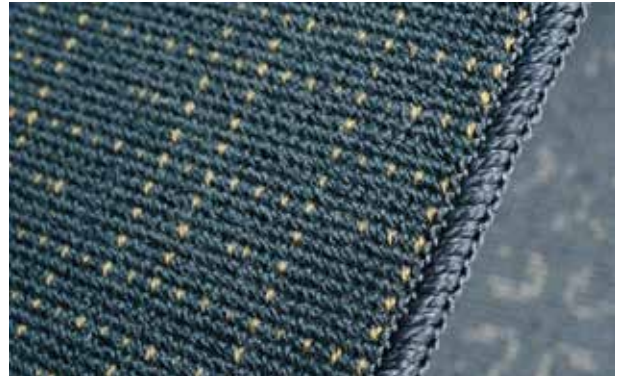


A typical carpet shape cut to fit contours

3.2 Serged carpets

Lantal can also deliver expertly serged carpets. Serging is a functionally useful and visually attractive way to finish the edge of a carpet and also serves as a discreet design element. It is mandatory for carpets that can fray at the edges and thus lack what is often referred to as cut-fastness.

- Dense serging for carpet edges with a thicker serging yarn
- Speed serging for carpet edges with a thinner serging yarn
- When chosen as a design detail, serging can be performed with a contrast yarn instead of with a tone-on-tone yarn. Also, serging techniques can be customized to accent and reflect your corporate identity.



Tone-on-tone serging



Speed serging



Contrasting serging

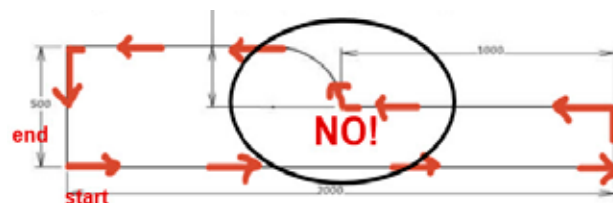
3.3 Cutting and serging techniques

To ensure a pleasing result, third-party cutting and serging providers must be aware of the following resources and steps needed to professionally cut and serge carpet parts:

- The best way to cut carpet parts is to use two 8-meter long CNC knife cutters with vacuum tables.
- The carpet should be unrolled and laid flat on the floor at least one day before cutting to eliminate the coil stress created when the carpet was wound around its roll core. Otherwise, the carpet may shrink after cutting.
- Serging the carpet parts requires a table with a roll conveyor and a pedal-controlled serging machine, a yarn supply device with air tube, and automatic extraction of the sewing/serging fluff.
- Open edge serging will cause the carpet to shrink during the serging process. To reduce the gap on the aircraft cabin floor, pre-cut the carpet with an additional 50 mm in length. If the carpet is not square and has one or more cut-outs, 25 mm should be added at both ends of the carpet (lengthwise). The shrinkage caused by serging is between 1 % and 2 % of the total length. This also depends on the construction of the carpet and its weight.
- We recommend not to serge the inner corners of a shape in one go. Instead start at the corner end. That way no extra waviness is caused by serging over the edge inside the black circled area.
- Before making final measurements, cutting, and serging the corners, the carpet should be allowed to relax for 24 hours.



Open edge serging



-
- For the final measurement and before cutting, it is necessary to fully roll out the carpet and secure its end with a goniometer.



- Cut along the straightedge to make sure that you have a straight line.
The red marker is called the “zero line”; it is 50 mm longer than the final cut line. If the end of the carpet to be cut is not between the straight-edge and the zero line, a measurement or cutting problem may occur with the respective carpet part.



1 “Zero line” (red line)

2 Straightedge

-
- Finish serging the carpet edges and melt the yarn, then smooth down the melted yarn.



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- Fully serged carpet edges and corners.



- Load all material in a trolley when the carpet is ready to be installed in the aircraft.



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- The pre-cut carpet on the cabin floor. There is no installation gap between the adjoining carpet parts.



3.4 Cutting without serging

- The first step is to make a 3 or 4 cm cut between two loop rows with a pair of scissors.



- Then you can cut the carpet with the carpet knife. Note that you need to stay between the two rows of loops at all times.



-
- Finish cutting the carpet with the carpet knife.



- After cutting, please check the carpet for loose threads.



-
- Threads have to be pulled out and cut off with scissors.



-
- Sometimes, when you do not align the cut exactly between the loop rows, “cut” loops have to be removed by hand.



Remark:

Different carpet constructions, carpet weights, and storage methods may cause carpet shrinkage or inaccurate final results if you do not handle the carpet cutting and serging steps in the right way. To ensure a pleasing result, please follow the recommendations in the manual for professionally storing, cutting and serging carpet parts.

4 Installation

To expedite and professionalize the installation of the carpet, Lantal recommends two methods: double-sided tape or a self-adhesive coating applied to the back. Both methods speed up the carpet laying process and eliminate the need for additional auxiliary products. And at the end of the carpet's life cycle, the parts can be removed without leaving adhesive traces behind.

4.1 Relink 2318 B double-sided tape

Lantal's Relink 2318 B double-sided adhesive tape has the following compelling advantages:

- The tape simplifies the work involved in carpet installation
- The tape comes off with the carpet and leaves no residues on the floor panel
- This eliminates the need to clean the panel surface
- Tested and approved by Airbus

Composition

Polyacrylate adhesive, polyester film carrier

Thickness and weight

The tape is 0.21 mm thick and weighs only 210 g/m².

Properties

It has different adhesion characteristics for the carpet and panel sides so that when the carpet is removed, the tape comes off with it and leaves no residues on the floor panels. This eliminates the need to clean the panel surfaces.

The tape is manufactured in an energy-saving process which requires no solvents.

It has a long shelf life and is remarkably ageing-resistant.

No waste disposal restrictions apply at the end of its life cycle.



Relink 2318 B double-sided tape

Availability

The tape is 50 mm or 100 mm wide and comes on 50-meter rolls in boxes of 16 rolls. We can also supply it in other widths and lengths on request.

Homologation

Relink 2318 B double-sided tape has been tested and approved by Airbus according to AIMS 10-05-014 and can be procured according to ABS 5648B.

Installation

Relink 2318 B double-sided tape is applied along the outer edges of the carpet parts and along their centerlines, especially in trolley traffic zones.

The tape must be pressed with a spatula to fix it on the floor and a defined weight provides surface pressure.

In addition to the “standard” lengthwise application of double-sided tape stripes for the aisles, double-sided tape must be applied crosswise in intervals of 300 cm.

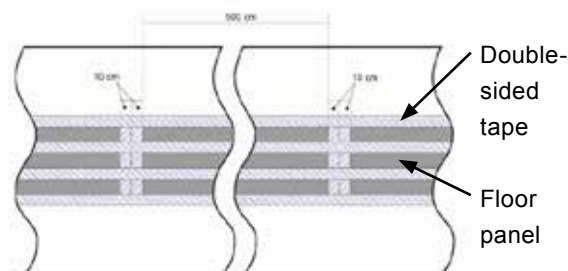
Adhere the carpet to the cabin floor panel along the carpet joints (both sides) with 3 x 10 cm of Relink 2318 B double-sided tape.

The carpet should be installed from the aft to the front of the aircraft to avoid gaps in the middle of the cabin.

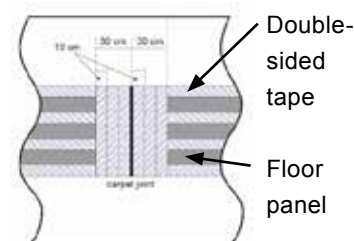
The carpet edge joining the Non Textile Flooring (NTF) has to be clamped with a carpet rail.

The carpet must not be installed under tension.

For detailed information concerning the required quantity of double-sided tape per aircraft type, consult annex 10.1.



Lengthwise application of the Relink 2318 B double-sided tape with crosswise reinforcement



Application of Relink 2318 B double-sided tape along the joints



Clean edges with carpet rail

4.2 Self-adhesive carpet coating

Lantal's self-adhesive carpet coating features the following advantages:

- Cost- and time-effective carpet installation (up to 80% less installation time)
- No additional adhesive tape needed
- Easy to remove without traces on floor panels
- Practically no cleaning of panel surfaces required
- The self-adhesive coating can be applied to any woven carpet
- Protective film peels off easily; simple installation
- Qualified by Boeing for the Dreamliner 787

Composition

90% linked polyurethane/polyacrylic or polyurethane,
10% ammonium polyphosphate.

Weight of adhesive

80 g/m² ± 25 g or 125 g/m² ± 25 g.

Properties

The disposal of this type of carpet with self-adhesive coating is not subject to any special waste handling regulations.

Availability

The self-adhesive coating is applied to the carpet rolls (max. 2 m wide). The carpet is delivered in lengths or pre-cut, shaped segments.

Installation

No special skills are needed to install the carpet with this coating, so laying operations are time-efficient. Despite the strong adhesion of the coating, the carpet is easy to install after removal of the protective film and also easy to remove without leaving traces on the floor panels. Therefore, only minimal cleaning of the panel surfaces is necessary and workers are not exposed to noxious fumes.



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- Floor panels must be clean and free of double-sided tape residues.



- Roll out the cut carpet parts fully, position them precisely and weight them down.



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- Starting from one of the two ends of the first laid carpet part, remove 20 to 30 cm of the protective film and cut it off.



- Gently push down the first part (20 to 30 cm) of the carpet to fix it to the floor. Roll up the carpet on the opposite side.



-
- Roll out the carpet again and peel off the protective film at the same time. Gently push down the carpet to fix it to the floor. The installation is finished.

For further information concerning the installation, our website www.lantal.com provides some video clips.

The self-adhesive backing remains at the back of the carpet when removed and it does not change its properties as long as it is kept clean (no dust/dirt should touch the carpet backing at all, otherwise a high adherence of the carpet cannot be guaranteed anymore).

Remark:

Professionally installing a carpet will help minimize shrinking and slipping of the carpet during use and therefore reduce the gaps between carpet parts to ensure a pleasing look inside the cabin for an extended period of time.



5 Cleaning

Thorough care and maintenance will prolong the attractive appearance of the pile. Provided that the correct cleaning procedures are respected, the carpet will remain in good condition for an extended period of time. It is highly recommendable to set up a cleaning/maintenance plan and institutionalize the respective procedures.

Please observe our experience-based recommendations for cleaning the carpet during the flight in the event of accidental soiling as well as routine cleaning on the ground.

5.1 Daily cleaning inside the aircraft

The carpet should be vacuumed as often as possible (after every flight if time allows) because this will remove the bulk of possible dirt and dust brought into the cabin by shoes.

- Vacuum cleaning with a high-performance machine.
- Make sure that the dust bag in the machine is empty before starting the cleaning process to fully exploit the capacity of the vacuum cleaner.

5.2 Soiling during flights

Dirt and stains may occur at any time. Immediate attention to spills generally prevents the development of stubborn stains.

In case of liquid spills on the carpet (coffee, tea, soft drinks, wine, etc.):

- Take a white towel or absorbent paper tissue and dab the affected area to soak up most of the liquid immediately. Dab fresh stains as soon as possible.
 - Do not rub, dabbing is the best method!
-

In the event that the carpet is soiled by meal ingredients, etc.:

- Take a spoon or other suitable utensil and remove residues immediately.
- After that first action, use a tissue or paper towel and dab the stained area. Do not rub!
- If possible, cover or mark the stained area to prevent passengers from walking over it.

5.3 Stain removal after flights

Basically, fresh stains and liquids should be attended to immediately by using tissues or white towels – just dab the spots.

To thoroughly and successfully remove stains after a flight, cleaning with a special product is indispensable.

Do not carry any cleaning sprays aboard the aircraft.

Lantal recommends the following procedure:

- Always follow the instruction on the packaging
- Test for color fastness and material durability in an inconspicuous spot

Stain	Treatment
Coffee Tea Soft drinks Wine	Moisten a cloth with cold water. Place this on the stain to absorb the fluid. Repeat the action as soon as the cloth is saturated and until all fluid has been absorbed. Let the carpet dry and spray the stain with Aviation Carpet Cleaner One. Brush away with the Spotting tool.
Blood Vomit Urine	Same as coffee, tea, soft drinks and wine.
Food left-overs and fruits	Remove all loose, solid elements with a teaspoon. Spray the stain with Aviation Carpet Cleaner One and brush with the Spotting tool.
Chewing gum	Spray the stain with a chewing gum freezer (Wetrok Karpfrost cold spray or gumex chewing gum remover). Carefully scrape the chewing gum off with a teaspoon.

Product recommendation

Lantal recommends the Aviation Carpet Cleaner One for stain removal. For details, consult annex 10.2. This product is approved by Boeing. Approval in annex 10.7.



5.4 Removal of chewing gum

Chewing gum is best removed with a cold spray.

- Spray product on chewing gum to freeze it.
- Fragmentize chewing gum with spatula and scratch off.
- Immediately remove frozen fragments (vacuum-clean).
- Product recommendation: Lantal recommends the Wetrok Karpfrost cold spray. For details, consult annex 10.3.

Another good working possibility to remove chewing gum is to use a liquid cleaning agent.

- Apply the product to a cloth and blot onto the chewing gum
- Allow the product to act, then rub the chewing gum off.
- Use a spatula (plastic) to remove particularly stubborn chewing gum.
- Carefully dispose of the removed chewing gum.
- Product recommendation: Lantal recommends the gumex chewing gum remover. For details, consult annex 10.4.



5.5 Cleaning inside the aircraft

Encapsulation cleaning method

We recommend deep cleaning the pile with an encapsulation cleaning method.

- 1st step: Vacuum cleaning with a rotating brush vacuum cleaner.
- 2nd step: Pretreat and remove stains as described above.
- 3rd step: Pre-spray the carpet with Aviation Carpet Cleaner Two
- 4th step: Let it work in the carpet a few minutes.
- 5th step: Use the brush machine with the white brushes and use it cross link on the carpet.
- 6th step: If necessary, repeat steps 2 to 4.



After one hour the carpet is walkable. The carpet must be lubricated with the encapsulation formula when using this method.

The dosage of the detergents depends on the degree of soiling.

- normal: 1 bottle of 350ml per 8 litres cold water
- heavy soil: 1 bottle of 350ml per 4 litres cold water

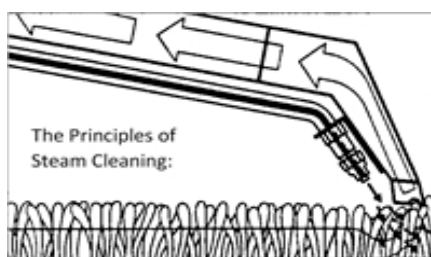


Product recommendation

Lantal recommends the use of Aviation Carpet Cleaner Two as detergent for the encapsulation cleaning method for more intense carpet cleaning on a periodic base inside the aircraft. The system is almost dry and the carpet is directly walkable after the treatment. Compared to traditional systems this procedure saves a lot of water. For details, consult annex 10.5. This product is approved by Boeing. Approval in annex 10.8.

Injected steam cleaning

Steam cleaning means cleaning with limited humidity (90% less than water spray extraction). The steam is injected into the pile with high pressure and the humidity is extracted immediately thereafter by vacuum. After two hours the carpet is walkable.



Product recommendation

For the injected steam cleaning method, Lantal recommends the Wetrol Calorvac DS7 steam vacuum cleaner. It steam cleans and vacuums in one pass. The use of steam at 150°C results in local thermal disinfection. Absolutely no chemicals are required when using the Calorvac DS7. Heat achieves the effect for which cleaning agents are normally deployed.



5.6. Cleaning outside the aircraft

Spray extraction

When removing carpet parts from the aircraft, we recommend deep cleaning the pile with a spray extraction system.

- 1st step: Properly vacuum-clean carpet to remove dust and dirt particles.
- 2nd step: Pretreat and remove stains as described above.
- 3rd step: Spray special cleaning agent over entire carpet area and let the product penetrate for about 10 to 15 minutes. Do not allow the cleaning agent to dry in the carpet.
- 4th step: Start cleaning procedure with the spray extraction machine.



Product recommendation

We recommend a cleaning machine with a powerful suction unit for the best possible removal of moisture and the shortest possible drying time. Our experience has been good with the Wetrok Extravac 340 for medium-sized to large carpet areas.

Before starting any cleaning process with a new untested product, apply the cleaning product on a part of the carpet that is not readily visible or on a small leftover part to check if the detergent or stain remover causes any damage to the pile surface or results in unwanted discoloration. In cases of doubt or if you have any questions, do not hesitate to contact us. We will be happy to advise you.



Video

Please find here the video clip showing the Lantal cleaning recommendation for carpet on our YouTube channel.

6

Intermediate storage

In the Lantal warehouse, the rolls are exposed to the air so that the carpet can breathe. This also allows the humidity from the back coating process to evaporate. After delivery to your location, please store your carpet rolls in the same position and cut open the top of the protective film.



Lantal Textiles warehouse

7

Service life

Lantal's experience confirms that the replacement of an aircraft cabin carpet is necessary not primarily because of wear, but because of dirt. The service life of Lantal carpets can be considerably extended if the maintenance and cleaning recommendations in this document are observed.

Additionally, the specific service lifetime of a carpet depends largely on the airline's interior upkeep philosophy, including color, construction, cleaning intervals, the routing (long-haul, short-haul, and charter flights), geographical parameters, and load factors.

8

Contact address

Contact Lantal and discuss your needs with us.

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www.lantal.com



9 Notes

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Estimated consumption by Aircraft type

Airbus Model	Relink QTY between 30% and 50% in sqm		Carpet QTY in sqm
	30%	50%	
A319	28.2	47	94
A320	32.4	54	108
A321	44.4	74	148
A330	69 - 75	115 - 125	230 – 250
A350	90 – 150	150 - 175	300 – 350
A380	165	275	550
Boeing Model			
B737	37.5 – 52.5	62.5 – 87.5	125 – 175
B747	150	250	500
B767	87	145	290
B777	96 – 108	160 – 180	360 – 380
B787-8	90	150	300
B787-9	105	175	350
B787-10	112.5	187.5	375
ATR Model			
ATR 42	9.6	16	32
ATR 72	15.6	26	52

1. Identification

Product identifier Aviation Carpet Cleaner One

Other means of identification

Product code ACC

Recommended use Carpet cleaner.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier Progenta
Veenendaalsestraatweg 14B
3921EC Elst, The Netherlands

Telephone +31-318-471823

Emergency telephone number +31-318-471823

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The product does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information This product meets Green Seal's requirements for skin and eye irritation and acute toxicity at the as-used dilution.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Ammonium Lauryl Sulfate	68081-96-9	1 - < 3
Ammonium hydroxide	1336-21-6	0.1 - < 0.25

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed	Exposed individuals may experience eye tearing, redness, and discomfort.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water, Water fog, Foam, Dry chemical powder, Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	For industrial use, wear appropriate personal protective equipment (See Section 8). Wear protective gloves.
Methods and materials for containment and cleaning up	Absorb spill with vermiculite or other inert material, then place in a container for chemical waste for proper disposal. Large Spills: Dike for later disposal. Flush area with water. Prevent runoff from entering drains, sewers, or streams.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid contact with skin and eyes. Keep from freezing. If frozen, allow to thaw to room temperature. Mix before using.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store in upright position. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Ammonium hydroxide (CAS 1336-21-6)	STEL	35 ppm
	TWA	25 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ammonium hydroxide (CAS 1336-21-6)	STEL	27 mg/m ³
		35 ppm
	TWA	18 mg/m ³
		25 ppm

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Ensure adequate ventilation, especially in confined areas.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).

Skin protection	
Hand protection	Chemical resistant gloves are recommended.
Other	Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.
Thermal hazards	Not applicable.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Clear liquid.
Color	Colorless to light yellow.
Odor	No fragrance added.
Odor threshold	Not available.
pH	5
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	> 200.0 °F (> 93.3 °C)
Evaporation rate	< 1 (Butyl acetate = 1)
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	> 1 (Air=1)
Relative density	1.01
Solubility(ies)	
Solubility (water)	Complete.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Keep from freezing.
Incompatible materials	Strong oxidizing agents. Do not mix with other chemicals or household cleaners.

Hazardous decomposition products No dangerous reaction known under conditions of normal use.

11. Toxicological information

Information on likely routes of exposure

Inhalation High mist concentrations may cause irritation of respiratory tract.
Skin contact Prolonged or repeated skin contact may cause irritation.
Eye contact Direct contact with eyes may cause temporary irritation.
Ingestion Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics Exposed individuals may experience eye tearing, redness, and discomfort.

Information on toxicological effects

Acute toxicity Expected to be a low hazard for usual industrial or commercial handling by trained personnel.
Skin corrosion/irritation Prolonged or repeated contact may dry skin and cause irritation.
Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization No data available.
Skin sensitization The product contains a small amount of sensitizing substance which may provoke an allergic reaction among sensitive individuals.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Not classified.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Ammonium hydroxide (CAS 1336-21-6)			
Aquatic			
Crustacea	LC50	Daphnia magna	0.66 mg/l, 48 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This product is not intended to be transported in bulk.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ammonium hydroxide (CAS 1336-21-6) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Ammonium hydroxide (CAS 1336-21-6)

US. New Jersey Worker and Community Right-to-Know Act

Ammonium hydroxide (CAS 1336-21-6)

US. Pennsylvania Worker and Community Right-to-Know Law

Ammonium hydroxide (CAS 1336-21-6)

US. Rhode Island RTK

Ammonium hydroxide (CAS 1336-21-6)

US. California Proposition 65

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 19-August-2016

Revision date 19-August-2016

Version # 02

NFPA ratings



List of abbreviations

LC50: Lethal Concentration, 50%.

STEL: Short term exposure limit.

TWA: Time weighted average.

References

HSDB® - Hazardous Substances Data Bank

National Toxicology Program (NTP) Report on Carcinogens

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer

The information contained herein was obtained from current and reliable sources. However, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond the manufacturer's control, it is the user's responsibility both to determine safe conditions for use of this product and to assume liability for loss, injury, damage or expense arising from the product's improper use. No warranty, expressed or implied, regarding the product described herein shall be created by or inferred from any statement or omission in this SDS. Various government agencies may have specific regulations concerning the transportation, handling, storage, use or disposal of this product which may not be reflected in this SDS. The user should review these regulations to ensure full compliance.



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Wetrok Karpfrost

Print date: 02.05.2013

Product code: 237

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Wetrok Karpfrost

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture

Washing and cleaning products (including solvent based products)

Restricted to professional users.

1.3. Details of the supplier of the safety data sheet

Company name:	Wetrok AG	
	Headquarter	
Street:	Steinackerstr. 62	
Place:	CH-8302 Kloten	
Telephone:	+41 (0)43 255 51 51	
e-mail:	chemie@wetrok.ch	
Contact person:	Marina Simeunovic	Telephone: +41 (0)43 255 53 50
e-mail:	marina.simeunovic@wetrok.ch	
Internet:	www.wetrok.ch	
Responsible Department:	BU Chemicals / Regulatory	

1.4. Emergency telephone

Im Notfall: +41 44 251 51 51 (Tel. 145) (Toxikologisches Zentrum)

number:

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Indications of danger: F+ - Extremely flammable

R phrases:

Extremely flammable.

2.2. Label elements

Danger symbols: F+ - Extremely flammable



F+ - Extremely flammable

R phrases

12 Extremely flammable.

S phrases

16 Keep away from sources of ignition - No smoking.

51 Use only in well-ventilated areas.

Special labelling of certain mixtures

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.

Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking. Keep out of the reach of children.

2.3. Other hazards

No risks worthy of mention. Please observe the information on the safety data sheet at all times.



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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

EC No	Chemical name
CAS No	Classification
Index No	GHS classification
REACH No	
204-065-8	dimethyl ether
115-10-6	F+ - Extremely flammable R12
603-019-00-8	Flam. Gas 1; H220
200-827-9	propane
74-98-6	F+ - Extremely flammable R12
601-003-00-5	Flam. Gas 1; H220
203-448-7	butane
106-97-8	F+ - Extremely flammable R12
601-004-00-0	Flam. Gas 1; H220

Full text of R and H phrases: see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In all cases of doubt, or when symptoms persist, seek medical advice.

After inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

After contact with skin

Wash with generous amount of water. Change contaminated clothing.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink large quantities of water.

4.2. Most important symptoms and effects, both acute and delayed

No symptoms known up to now. In all cases of doubt, or when symptoms persist, seek medical advice.

4.3. Indication of any immediate medical attention and special treatment needed

May produce an allergic reaction. In case of allergic symptoms especially in the breathing apparatus, seek medical advice immediately. In case of accident or if you feel unwell, seek medical advice immediately (show safety data sheet if possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water. Carbon dioxide (CO₂). Foam. Extinguishing powder.

5.2. Special hazards arising from the substance or mixture

Combustible. Vapours may form explosive mixtures with air. Heating causes rise in pressure of bursting.



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5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Use water spray/stream to protect personnel and to cool endangered containers. Use a water spray jet to knock down vapours/gases/mists.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition. Provide adequate ventilation. Wear a self-contained breathing apparatus and chemical resistant suit.

6.2. Environmental precautions

Do not allow uncontrolled leakage of product into the environment. Explosion hazard.

6.3. Methods and material for containment and cleaning up

Ventilate affected area.

6.4. Reference to other sections

See protective measures under point 7 and 8.

Treat the assimilated material according to the section on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

In case of open handling equipment with built-in suction must be used. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin and eyes. Do not eat, drink, smoke or sneeze at the workplace. Observe instructions for use. Use only in well-ventilated areas.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours may form explosive mixtures with air.

Further information on handling

No special handling instructions are necessary.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from sources of ignition - No smoking. Keep locked up. Store in a place accessible only to authorized persons. Provide for sufficient ventilation and punctiform suction at critical points. Protect from direct sunlight. Store in a cool dry place. Recommended storage temperature: at room temperature

Advice on storage compatibility

Do not store together with: Material, rich in oxygen, oxidizing.

Further information on storage conditions

Minimum storage temperature: 15°C

Maximum storage temperature: 25°C

7.3. Specific end use(s)

Notice the directions for use on the label.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters



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Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
106-97-8	Butane	600	1450		TWA (8 h)	WEL
		750	1810		STEL (15 min)	WEL
115-10-6	Dimethyl ether	400	766		TWA (8 h)	WEL
		500	958		STEL (15 min)	WEL

8.2. Exposure controls

Protective and hygiene measures

Change contaminated clothing. Wash hands before breaks and at the end of work. When using do not eat or drink.

Respiratory protection

Respiratory protection required in case of: insufficient ventilation.

Hand protection

Hand protection: not required.

Eye protection

Eye protection: Tightly sealed safety glasses. Eye-pieces out of plastic.

Skin protection

Only wear fitting, comfortable and clean protective clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	gaseous
Colour:	colourless
Odour:	Solvents

Test method

pH-Value:	not applicable
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Changes in the physical state

Boiling point:	-42 °C
Flash point:	-104 °C
Lower explosion limits:	1,4 vol. %
Upper explosion limits:	32 vol. %
Ignition temperature:	240 °C
Water solubility:	insoluble

9.2. Other information

none/none

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

Protect from sunlight. Store in a well-ventilated place.

10.3. Possibility of hazardous reactions

No data available



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10.4. Conditions to avoid

Keep away from heat. Ignition hazard.

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

This article doesn't contain dangerous substances or preparations intended to be released under normal or reasonably foreseeable conditions of use.

Further information

Stability and reactivity: 24 M

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
106-97-8	butane				
	inhalative (4 h) gas	LC50	658 ppm	Rat	GESTIS

Additional information on tests

The classification was undertaken in accordance with the calculation method governed by the Preparations Directive (1999/45/EC).

SECTION 12: Ecological information

12.1. Toxicity

At normal temperatures a very volatile or gaseous product, which can escape into the atmosphere.

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

No indication of bio-accumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
115-10-6	dimethyl ether	0,1
74-98-6	propane	2,36
106-97-8	butane	2,89

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

There are no data available on the mixture itself.

12.6. Other adverse effects

There are no data available on the mixture itself.

Further information

Do not empty into drains or the aquatic environment. The classification was undertaken in accordance with the calculation method governed by the Preparations Directive (1999/45/EC).

SECTION 13: Disposal considerations

13.1. Waste treatment methods



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Advice on disposal

Waste disposal according to official state regulations.

Waste disposal number of waste from residues/unused products

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing dangerous substances
Classified as hazardous waste.

Waste disposal number of used product

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing dangerous substances
Classified as hazardous waste.

Waste disposal number of contaminated packaging

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing dangerous substances
Classified as hazardous waste.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2
Hazard label: 2.1



Classification code: 5F
Special Provisions: 190 327 344 625
Limited quantity: 1 L
Transport category: 2
Tunnel restriction code: D

Other applicable information (land transport)

E0

Inland waterways transport (ADN)

14.1. UN number: UN1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2
Hazard label: 2.1



Classification code: 5F
Special Provisions: 190 327 344 625
Limited quantity: 1 L

Other applicable information (inland waterways transport)

E0

Marine transport (IMDG)

14.1. UN number: UN1950
14.2. UN proper shipping name: AEROSOLS



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14.3. Transport hazard class(es): 2
14.4. Packing group: -
 Hazard label: 2, see SP63

Special Provisions: 63, 190, 277, 327, 344, 959
 Limited quantity: See SP277
 EmS: F-D, S-U

Other applicable information (marine transport)
 E0

Air transport (ICAO)

14.1. UN number: UN1950
14.2. UN proper shipping name: AEROSOLS, flammable
14.3. Transport hazard class(es): 2.1
 Hazard label: 2.1



Special Provisions: A145 A167 A802
 Limited quantity Passenger: 30 kg G
 IATA-packing instructions - Passenger: 203
 IATA-max. quantity - Passenger: 75 kg
 IATA-packing instructions - Cargo: 203
 IATA-max. quantity - Cargo: 150 kg

Other applicable information (air transport)
 E0
 Passenger-LQ: Y203

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

Additional information

aerosol directive (75/324/EEC).

National regulatory information

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Full text of R phrases referred to under Sections 2 and 3

12 Extremely flammable.

Full text of H statements referred to under Sections 2 and 3

H220 Extremely flammable gas.

Further Information

For industrial purposes only. Notice the directions for use on the label. The above information describes exclusively the safety requirements of the product and is based on our present-day

**Safety Data Sheet**

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knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 08.12.2014







Version number 1

Revision: 08.12.2014

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** gumex
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Surface cleanser
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Pramol-Chemie AG
Industriestrasse 3
CH-9602 Bazenheid/SG
Tel +41 71 931 70 30
Fax +41 71 931 44 54
- **Further information obtainable from:**
Abteilung für Produktsicherheit
info@pramol.com
Tel. 071 931 70 30
- **Emergency telephone number:**
Centre suisse d'information toxicologique, Zurich
+41 (0)44 251 51 51 ou 145 (depuis la Suisse)
Schweizerisches Toxikologisches Informationszentrum, Zürich
+41 (0)44 251 51 51 oder aus der Schweiz: Tel 145
Centro Svizzero d'informazione tossicologica
+41 (0)44 251 51 51 o dalla Svizzera: Tel 145

SECTION 2: Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
 -  **GHS02 flame**
Flam. Liq. 3 H226 Flammable liquid and vapour.
 -  **GHS08 health hazard**
Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.
 -  **GHS09 environment**
Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.
 -  **GHS07**
Skin Irrit. 2 H315 Causes skin irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
 -  **Xn; Harmful**
R65: Harmful: may cause lung damage if swallowed.
 -  **Xi; Irritant**
R38: Irritating to skin.

(Contd. on page 2)

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Trade name: gumex

(Contd. of page 1)

**Xi: Sensitising****R43:** May cause sensitisation by skin contact.**N: Dangerous for the environment****R51/53:** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.**R10-67:** Flammable. Vapours may cause drowsiness and dizziness.**Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

Label elements**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

Hazard pictograms GHS02, GHS07, GHS08, GHS09**Signal word** Danger**Hazard-determining components of labelling:**

Naphtha (petroleum), heavy alkylate

(R)-p-mentha-1,8-diene

Hazard statements

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H304 May be fatal if swallowed and enters airways.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P102 Keep out of reach of children.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

Chemical characterisation: Mixtures**Description:** Mixture of substances listed below with nonhazardous additions.**Dangerous components:**

CAS: 64741-65-7

EC number: 923-037-2

Reg.nr.: 01-2119471991-29-0001

Naphtha (petroleum), heavy alkylate

Xn R65

Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411

50-100%

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Trade name: gumex

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CAS: 5989-27-5
EINECS: 227-813-5

(R)-p-mentha-1,8-diene

Xi R38

Xi R43

N R50/53

R10

Flam. Liq. 3, H226; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; Skin Sens. 1, H317

20 < 25%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

- **Description of first aid measures**
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **Handling:**
- **Precautions for safe handling** Keep receptacles tightly sealed.
- **Information about fire - and explosion protection:**
Fumes can combine with air to form an explosive mixture.

(Contd. on page 4)

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Safety data sheet according to 1907/2006/EC, Article 31

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Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the skin.
Avoid contact with the eyes and skin.
- **Respiratory protection:** Not required.
- **Protection of hands:**



Protective gloves

- **Material of gloves** Nitrile rubber, NBR
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **As protection from splashes gloves made of the following materials are suitable:** Rubber gloves
- **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
- **Form:** Fluid
- **Colour:** Colourless
- **Odour:** Characteristic
- **pH-value at 20 °C:** -

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· Change in condition Melting point/Melting range: < -30 °C Boiling point/Boiling range: Undetermined.	
· Flash point:	43 °C
· Ignition temperature:	255 °C
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	0.7 Vol %
Upper:	6.1 Vol %
· Vapour pressure at 20 °C:	2.3 hPa
· Density at 20 °C:	0.795 g/cm ³
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Viscosity:	
Kinematic at 20 °C:	7 s (ISO 4 mm)
· Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

64741-65-7 Naphtha (petroleum), heavy alkylate

Oral LD50 > 6000 mg/kg (Rat)

Dermal LD50 > 3000 mg/kg (Rabbit)

5989-27-5 (R)-p-mentha-1,8-diene

Oral LD50 > 2000 mg/kg (Rat)

Dermal LD50 > 5000 mg/kg (Rabbit)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitisation:** Sensitisation possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

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Irritant

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SECTION 12: Ecological information

- **Toxicity**

- **Aquatic toxicity:**

5989-27-5 (R)-p-mentha-1,8-diene

EC50 (48h) 0.36 mg/l (Daphnia magna)

EC50 (72h) 8 mg/l (Desomdemus subspicatus)

LC50 (96h) 0.72 mg/l (Pimephales promelas)

- **Persistence and degradability** No further relevant information available.

- **Behaviour in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Ecotoxicological effects:**

- **Remark:** Very toxic for fish

- **Additional ecological information:**

- **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **Waste treatment methods**

- **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

- **European waste catalogue**

20 00 00 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS

20 01 00 separately collected fractions (except 15 01)

20 01 29* detergents containing dangerous substances

- **Uncleaned packaging:**

- **Recommendation:**

Disposal must be made according to official regulations.

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

SECTION 14: Transport information

- **UN-Number**

- **ADR, IMDG, IATA**

UN1993

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· UN proper shipping name	1993 FLAMMABLE LIQUID, N.O.S. (Alkanes, C9-12-iso-), ENVIRONMENTALLY HAZARDOUS
· ADR	FLAMMABLE LIQUID, N.O.S. (Alkanes, C9-12-iso-), MARINE POLLUTANT
· IMDG	FLAMMABLE LIQUID, N.O.S. (Alkanes, C9-12-iso-)
· IATA	FLAMMABLE LIQUID, N.O.S. (Alkanes, C9-12-iso-)
· Transport hazard class(es)	
· ADR, IMDG	
 	
· Class	3 Flammable liquids.
· Label	3
· IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	III
· ADR, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	Yes
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E,S-E
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S. (Alkanes, C9-12-iso-), ENVIRONMENTALLY HAZARDOUS, 3, III

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SECTION 15: Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **National regulations:**

· **Regulation (EC) No 648/2004 on detergents / Labelling for contents**

aliphatic hydrocarbons	≥ 30%
perfumes (LIMONEN)	15 - 30%

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H411 Toxic to aquatic life with long lasting effects.

R10 Flammable.

R38 Irritating to skin.

R43 May cause sensitisation by skin contact.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R65 Harmful: may cause lung damage if swallowed.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

· *** Data compared to the previous version altered.**

GB

SAFETY DATA SHEET

1. Identification

Product identifier	Aviation Carpet cleaner two
Other means of identification	
Product code	ACC-2
Recommended use	Carpet cleaner.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer/Supplier	Progenta Veenendaalsestraatweg 14B 3921EC Elst, The Netherlands
Telephone	+31-318-471823
Emergency telephone number	+31-318-471823

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Serious eye damage/eye irritation	Category 2
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Warning
Hazard statement	Causes serious eye irritation. Harmful to aquatic life.
Precautionary statement	
Prevention	Wash thoroughly after handling. Avoid release to the environment. Wear eye protection/face protection.
Response	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Storage	Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	This product meets Green Seal's requirements for skin and eye irritation and acute toxicity at the as-used dilution.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Ammonium Lauryl Sulfate	68081-96-9	5 - < 10
Ammonium hydroxide	1336-21-6	< 1

Composition comments	All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
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4. First-aid measures

Inhalation	If symptomatic, move to fresh air. Get medical attention if symptoms persist.
Skin contact	Wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.
Eye contact	Immediately flush with plenty of water for up to 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention promptly if symptoms occur after washing.
Ingestion	Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable take to hospital along with these instructions. Get medical attention if any discomfort continues.
Most important symptoms/effects, acute and delayed	Exposed individuals may experience eye tearing, redness, and discomfort.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

5. Fire-fighting measures

Suitable extinguishing media	Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move container from fire area if it can be done without risk. Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	For industrial use, wear appropriate personal protective equipment (See Section 8).
Methods and materials for containment and cleaning up	Small Spills: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste for proper disposal. Large Spills: Dike for later disposal. Flush area with water. Prevent runoff from entering drains, sewers, or streams.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid contact with skin and eyes. Keep from freezing. If frozen, allow to thaw to room temperature. Mix before using.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store in upright position. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Ammonium hydroxide (CAS 1336-21-6)	STEL	35 ppm
	TWA	25 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ammonium hydroxide (CAS 1336-21-6)	STEL	27 mg/m3
	TWA	35 ppm
		18 mg/m3
		25 ppm
Biological limit values	No biological exposure limits noted for the ingredient(s).	
Exposure guidelines	No exposure standards allocated.	
Appropriate engineering controls	Ensure adequate ventilation, especially in confined areas.	
Individual protection measures, such as personal protective equipment		
Eye/face protection	Wear safety glasses with side shields (or goggles).	
Skin protection		
Hand protection	Wear appropriate chemical resistant gloves.	
Skin protection		
Other	Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure. Contact glove manufacturer for specific information.	
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.	
Thermal hazards	Not applicable.	
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.	

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Clear liquid.
Color	Light yellow.
Odor	No fragrance added.
Odor threshold	Not available.
pH	7.9 Ready to use. 8.4 As supplied.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	> 200.0 °F (> 93.3 °C)
Evaporation rate	< 1 (Butyl acetate = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	> 1 (Air=1)
Relative density	1.03
Solubility(ies)	
Solubility (water)	Complete.

Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Keep from freezing.
Incompatible materials	Strong oxidizing agents. Do not mix with other chemicals or household cleaners.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	High mist concentrations may cause irritation of respiratory tract.
Skin contact	Prolonged or repeated contact may dry skin and cause irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics Exposed individuals may experience eye tearing, redness, and discomfort.

Information on toxicological effects

Acute toxicity	Expected to be a low hazard for usual industrial or commercial handling by trained personnel.
Skin corrosion/irritation	Prolonged or repeated skin contact may cause irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	No data available.
Skin sensitization	Not a skin sensitizer.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Not classified.

12. Ecological information

Ecotoxicity	Harmful to aquatic life.
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Components	Species	Test Results
Ammonium hydroxide (CAS 1336-21-6)		
Aquatic		
Crustacea	LC50	Daphnia magna
		0.66 mg/l, 48 hours
Persistence and degradability	No data available.	
Bioaccumulative potential	No data available.	
Mobility in soil	No data available.	
Other adverse effects	None known.	

13. Disposal considerations

Disposal instructions	Dispose of contents/container in accordance with all local, State and Federal regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company and/or appropriate testing.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities.

14. Transport information

DOT

Not regulated as dangerous goods.

ATA

Not regulated as dangerous goods.

MDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

15. Regulatory information

JS federal regulations This product is hazardous according to OSHA 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ammonium hydroxide (CAS 1336-21-6) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

- Immediate Hazard - Yes
- Delayed Hazard - No
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations**US. Massachusetts RTK - Substance List**

Ammonium hydroxide (CAS 1336-21-6)

US. New Jersey Worker and Community Right-to-Know Act

Ammonium hydroxide (CAS 1336-21-6)

US. Pennsylvania Worker and Community Right-to-Know Law

Ammonium hydroxide (CAS 1336-21-6)

US. Rhode Island RTK

Ammonium hydroxide (CAS 1336-21-6)

US. California Proposition 65

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 25-August-2016

Revision date -

Version # 01

NFPA ratings



List of abbreviations LC50: Lethal Concentration, 50%.
STEL: Short term exposure limit.
TWA: Time weighted average.

References HSDB® - Hazardous Substances Data Bank
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer The information contained herein was obtained from current and reliable sources. However, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond the manufacturer's control, it is the user's responsibility both to determine safe conditions for use of this product and to assume liability for loss, injury, damage or expense arising from the product's improper use. No warranty, expressed or implied, regarding the product described herein shall be created by or inferred from any statement or omission in this SDS. Various government agencies may have specific regulations concerning the transportation, handling, storage, use or disposal of this product which may not be reflected in this SDS. The user should review these regulations to ensure full compliance.

External power solution

That is an example for an external power solution 220volt/60hertz to be able to use the cleaning equipment inside the aircraft.



Long powerline to be dragged into the aircraft to power-up the cleaning equipment. @



Executed on behalf of:

**SMI, Inc.**

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Miami, Florida 33186-6401 USA

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Fax: (305) 971-7048

Attn: Marijn van Dijkhuizen
Progenta P&O B.V.
Veenendaalsestraatweg 14b
3921 EC Elst (Utr)
The Netherlands

Date: 31-Jan-2018

SMI/REF: 1710-304

Product: **AVIATION CARPET CLEANER ONE** (received 08-Dec-2017)

Dilution: As received

Boeing D6-7127 Rev P incorporating PDD 6-8 (21 June 12)

CLEANING INTERIORS OF COMMERCIAL
TRANSPORT AIRCRAFT

Category: Detergents: Upholstery and Carpet

11.3.1	Sandwich Corrosion	<u>Conforms</u>
11.3.2	Immersion Corrosion Test	<u>Conforms</u>
11.3.8	Fabric and Carpet Test	<u>Conforms</u>

Respectfully submitted,

Patricia D. Viani, SMI Inc.

Executed on behalf of:

**SMI, Inc.**

12219 SW 131 Avenue
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Progenta P&O B.V.
Veenendaalsestraatweg 14b
3921 EC Elst (Utr)
The Netherlands

Date: 06-Apr-2018

SMI/REF: 1802-549

Product: **AVIATION CARPET CLEANER TWO** (received 12-Mar-2018)

Dilution: As received

Boeing D6-7127 Rev P incorporating PDD 6-8 (21 June 12)

CLEANING INTERIORS OF COMMERCIAL
TRANSPORT AIRCRAFT

Category: Detergents: Upholstery and Carpet

11.3.1	Sandwich Corrosion	<u>Conforms</u>
11.3.2	Immersion Corrosion Test	<u>Conforms</u>
11.3.8	Fabric and Carpet Test	<u>Conforms</u>

Respectfully submitted,

Patricia D. Viani, SMI Inc.

